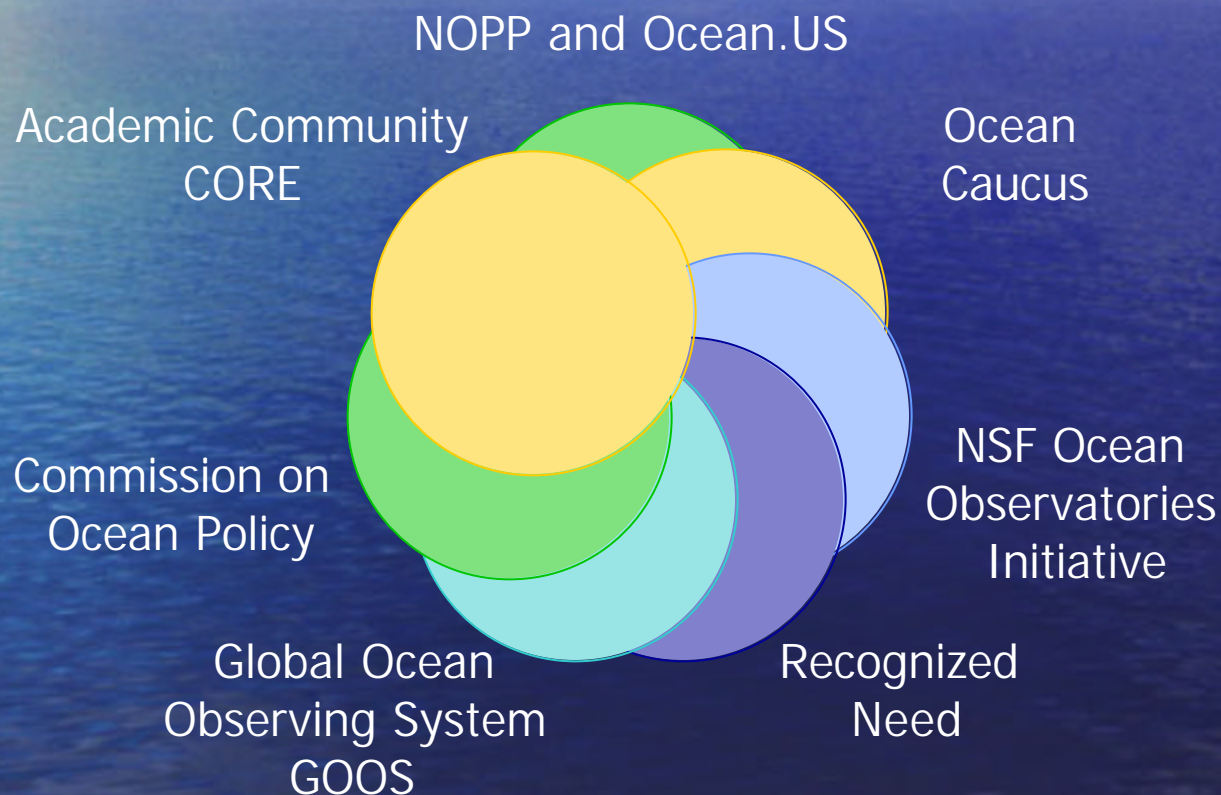


Planning for an Integrated Ocean Observing System

Eric J. Lindstrom
Director, Ocean.US Office

Convergence of Interests and Capabilities



Using the National Oceanographic Partnership Program

Created by Congress to help the 14+ agencies involved in the ocean more effectively address common issues.

National Ocean Research Leadership Council

Heads of NOPP Agencies

Ocean.US
IOOS Creation

Interagency
Working Group
Represents NORLC,
NOPP functions

Ocean
Research
Advisory
Panel
Official advisory
group for NORLC

Federal
Oceanographic
Facilities
Committee
Ships, planes, etc.

Ocean.US tasking using the NOPP/NORLC Mechanism



We now have observing based on

- Agency Programs
- Appropriation Markups
- Local Initiatives
- NOPP BAA's

We will have an IOOS based on

- National/Regional coordination and funding
- Rolling implementation plan responsive to needs

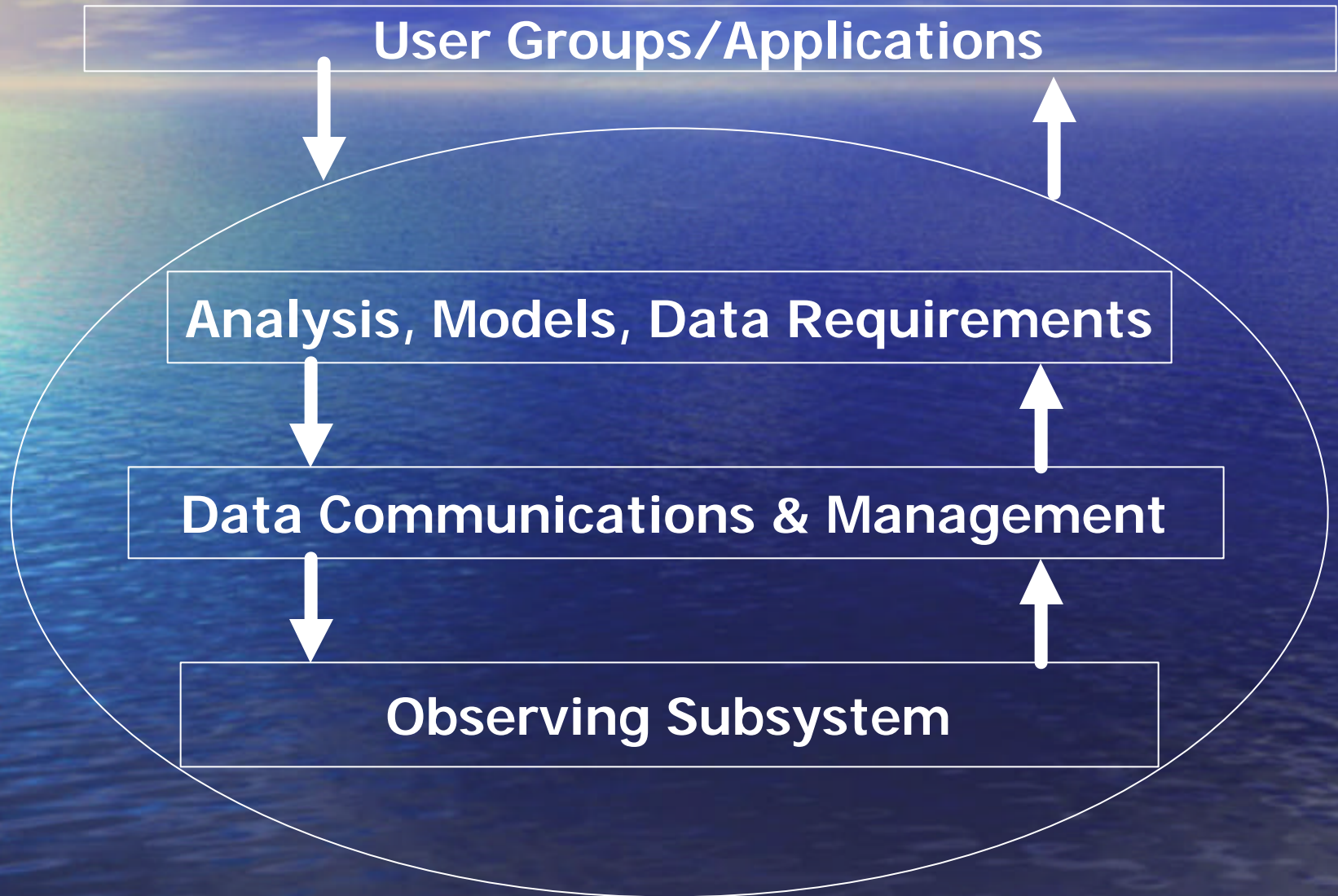
Goal: Address Seven Broad Areas Requiring Ocean Observations

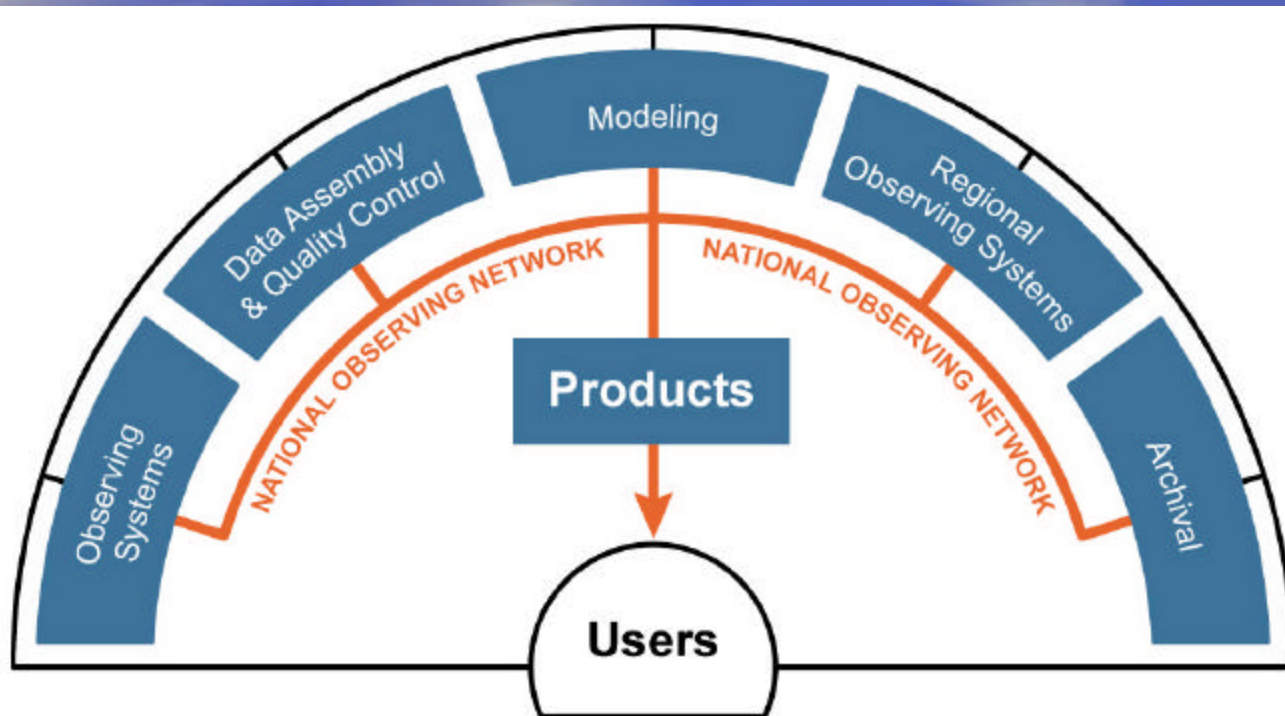
- Detect and Predict Change
- Mitigate natural hazards
- Improve safety and efficiency of marine ops
- Ensure national security
- Reduce public health risks
- Protect and restore marine ecosystems
- Sustain marine resources

Build An Integrated System

- Integration across functions
 - Observations
 - Data management, data communications
 - Analysis, modeling and products
- Integration across space and time scales
 - Global Module of IOOS
 - Coastal System of IOOS
 - National Observing Network ('the Backbone')
 - Federation of Regional Systems
 - International Cooperation (Canada, Mexico, Caribbean)

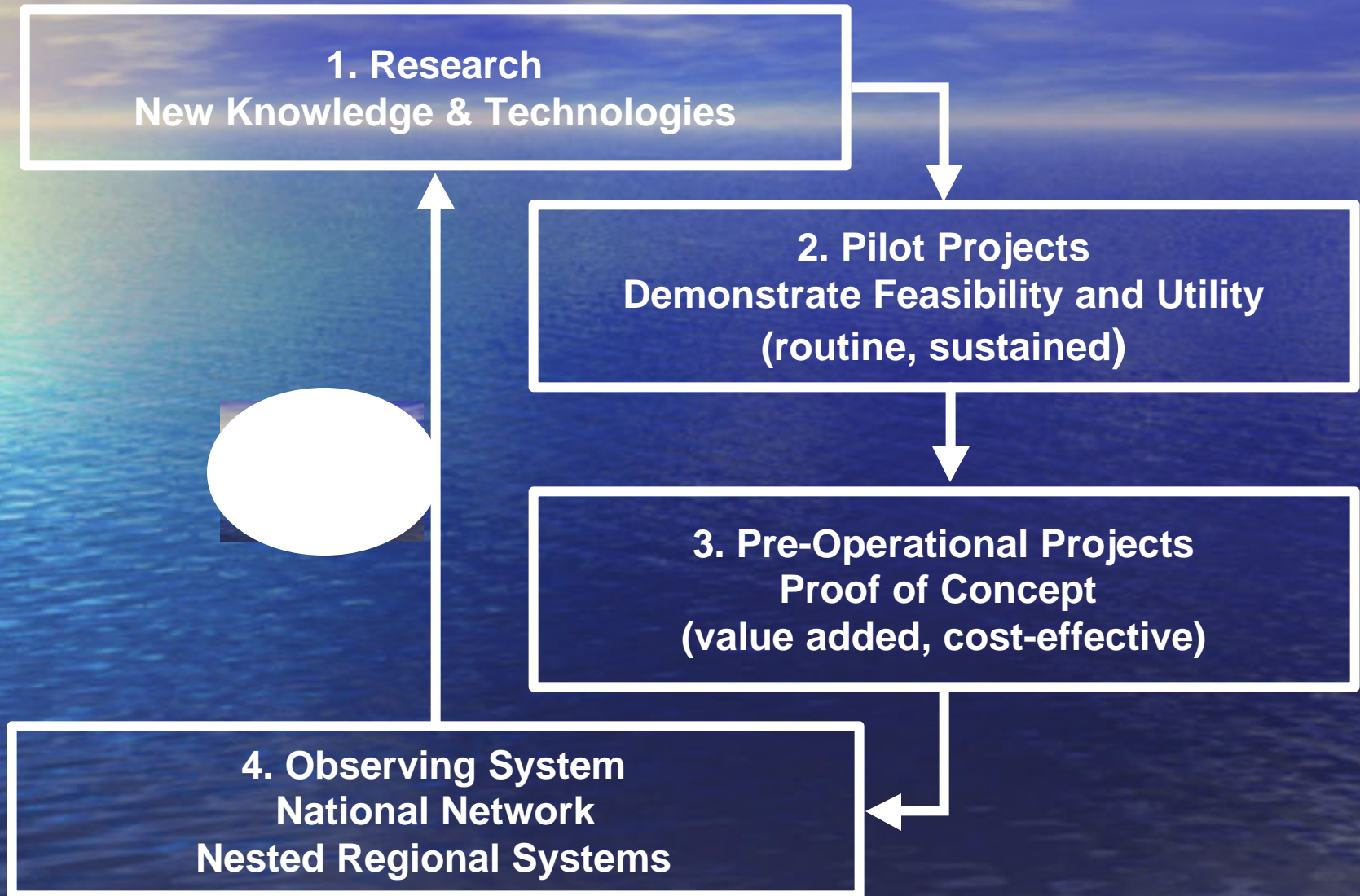
IOOS User Driven, End-to-End System





IOOS Data Management & Communications Subsystem

Sequential Development



IOOS

Research Projects

Pilot Projects

Pre-Operational Projects

**Education
Outreach**

**Ocean.US
Coordination**

OPERATIONAL SYSTEM

**Global
Ocean**

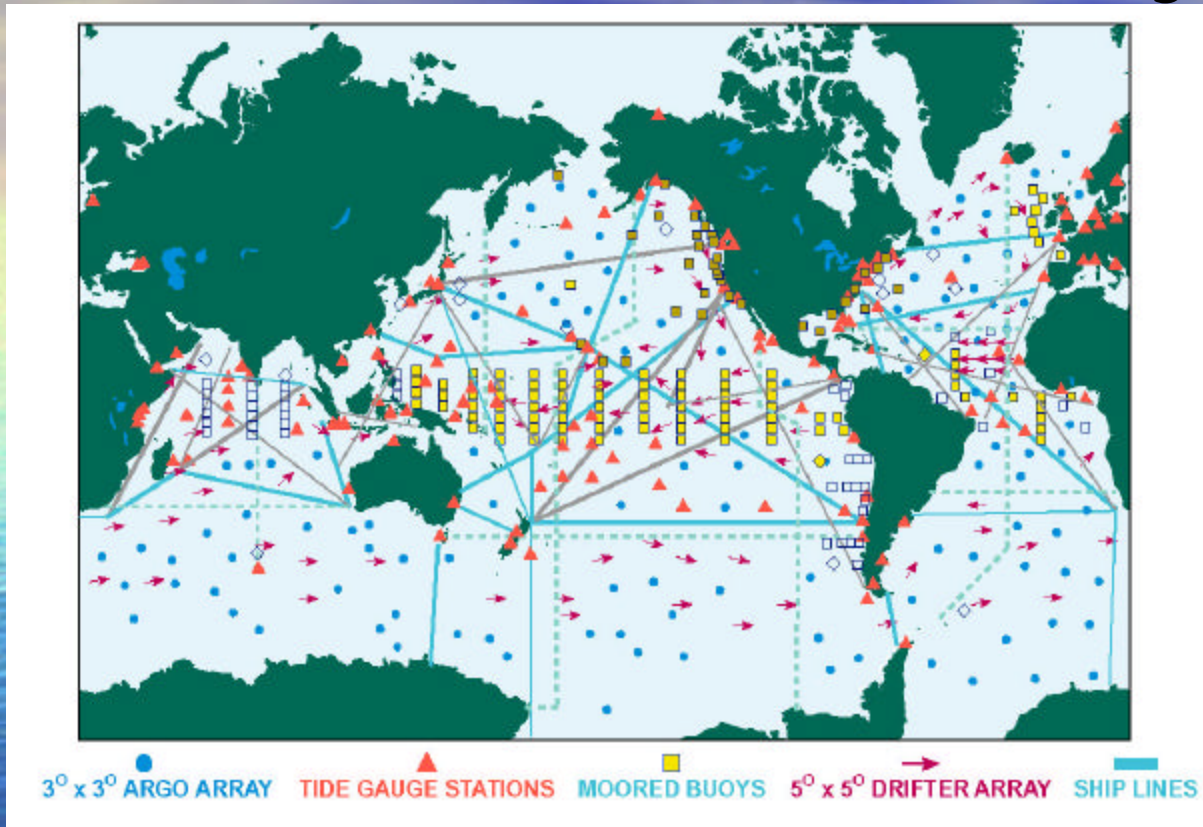
**National
Backbone**

**Regional
Observing
Systems**

Spatial Scale

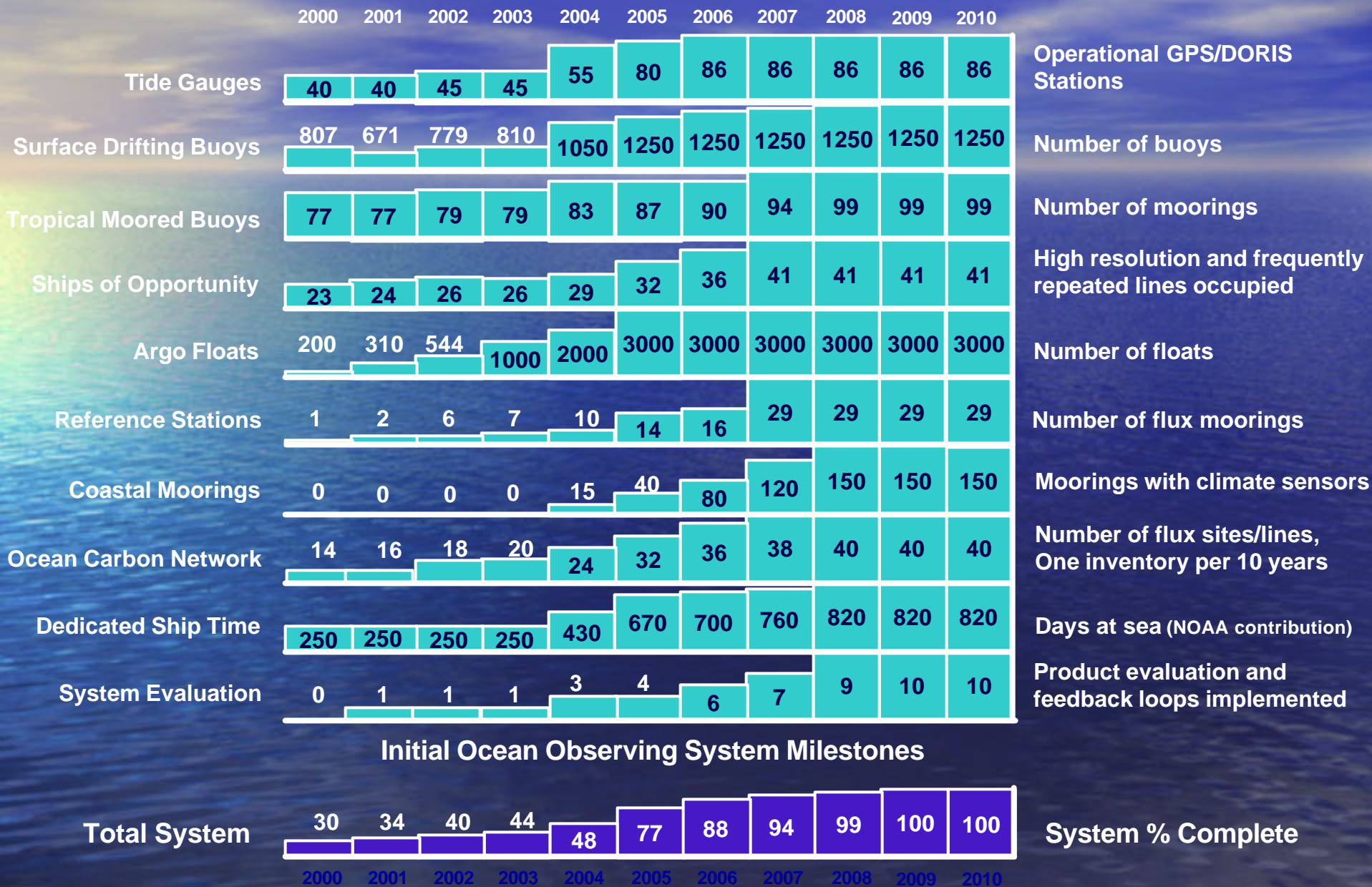


IOOS Global System



- Full implementation of Argo and the global ocean time series observatories.
- Successful completion of the Global Ocean Data Assimilation Experiment (GODAE).
- Optimizing the global network of observations, and
- Enhancing the ocean time series observatories with key biological and chemical sensors.

NOAA/OGP In-situ Observing System Plan



National Federation of Regional Systems

National System

- Satellite remote sensing
- Reference, Sentinel Stations
- Link to global module
- Data standards & exchange protocols

Regional Systems

- Land-based inputs
- State & Regional Priorities
- Greater resolution
- More variables



The U.S. Integrated Ocean Observing System

Global Ocean System

National Backbone

**Great
Lakes**

**Gulf of
Maine**

**Mid-
Atlantic**

Southeast

**Gulf of
Mexico**

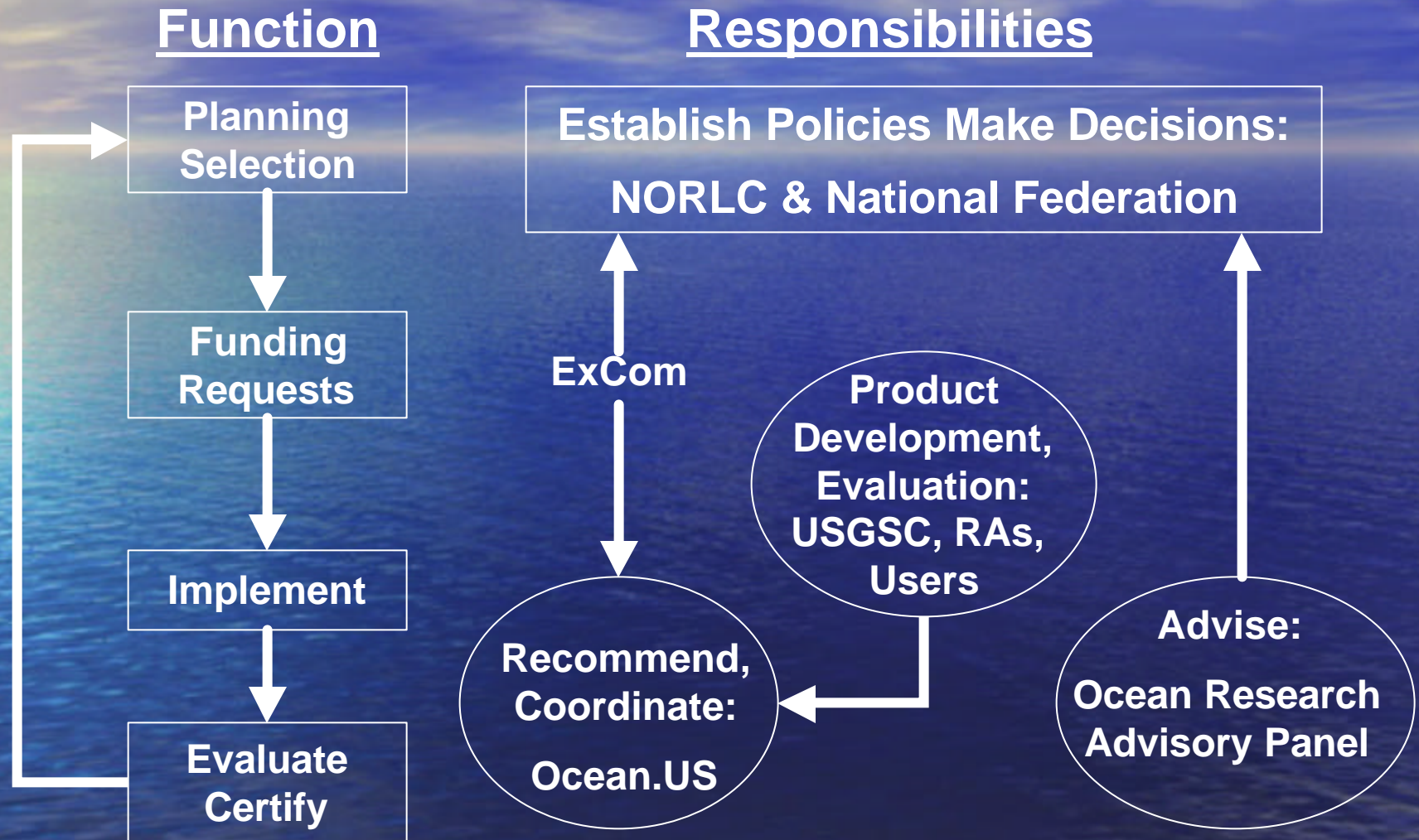
**Pacific
Northwest**

**Southern
California**

**Gulf of
Alaska**

**Hawaii
Pacific
Islands**

Governance of the IOOS



Four-Year Cycle of Planning, Programming and Budgeting for IOOS Implementation and Development

Year N-3

- May: Compile observing system status reports and proposals for improvement
- July-Sep: Transmit status report and plans for future operations and development to government agencies
- Sep: Provide guidelines for integrated development of IOOS

Year N-2

- Jan-Aug: Agencies use guidelines to specify their budgets for IOOS operation and development

Year N-1

- Oct-Dec: President's budget drafted and reviewed by the OMB; Integrated IOOS plan prepared by Ocean.US
Consolidated multi-agency budget prepared by the NOAA.
- Feb: President's budget submitted to Congress for approval and appropriation of resources for the IOOS

Year N

- Oct: Congress completes appropriations and implementation begins

Year N+1

- Mar-May: Performance evaluation and verification

Creating an IOOS

- Within the structure of the National Oceanographic Partnership Program and the international GOOS
- Using the influence of the National Ocean Research Leadership Council and coordination of Ocean.US
- While anticipating the recommendations of the Commission on Ocean Policy, and
- Expecting action by the Legislative and Executive branches.